

App. No. 10/711,262
Preliminary Amendment dated November 1, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-10 (cancelled):

Claim 11 (currently amended): ~~The optical isolator set forth in claim 6, wherein said polarizer and said analyzer are lent a structure having~~ A method of qualitatively transforming a DLC film, the method comprising the step of irradiating with either a particle beam or an energy beam at least one region of the DLC film to raise the refractive index of that region, whereby a distributed refractive indices, by irradiating with either a particle beam or an energy beam a diamond-like carbon thin film along a bias with respect to the film's thickness direction index structure is created within the DLC film.

Claim 12 (currently amended): ~~The optical isolator~~ A DLC film-transforming method as set forth in claim 11, wherein:

said particle beam is one selected from the group consisting of an ion beam, an electron beam, a proton beam, α -rays, or a neutron beam; and
said energy beam is one selected from the group consisting of light rays, X-rays or γ -rays.

Claim 13-21 (cancelled):

Claim 22 (new): A DLC film-transforming method as set forth in claim 11, wherein the qualitative transformation is carried out on one selected from the group consisting of a hydrogen-containing DLC film, a nitrogen-containing DLC film, and a non-hydrogen-containing, non-nitrogen-containing DLC film.

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Claim 23 (new): A DLC film-transforming method as set forth in claim 11, wherein the qualitative transformation is carried out on a DLC film having, with respect to light having a wavelength within a range of from 550 nm to 650 nm, a refractive index smaller than 1.6 and an extinction coefficient smaller than 1×10^{-3} .

Claim 24 (new): A DLC film-transforming method as set forth in claim 11, wherein the DLC film is irradiated with either the particle beam or the energy beam at a bias with respect to the film's thickness, whereby the distributed refractive index structure is created sloping with respect to the film's thickness.

Claim 25 (new): A DLC film characterized by having refractive indices distributed in a pattern oriented within the plane of the film.

Claim 26 (new): A DLC film characterized by having refractive indices distributed in a pattern oriented on a bias with respect to the thickness of the film.

Claim 27 (new): A DLC film characterized by having a distributed refractive index pattern created by a film-transforming method as set forth in any of claims 11, 12 and 22 through 24.